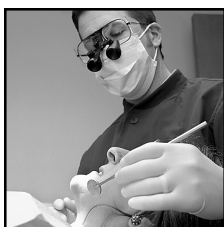
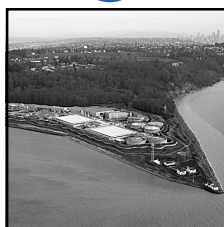
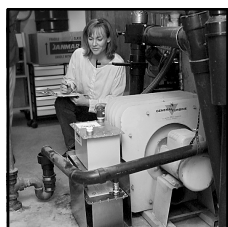


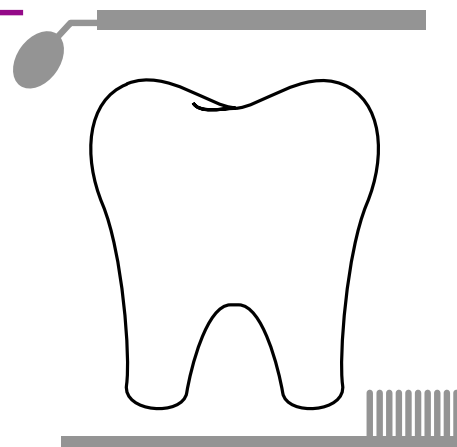
King County Dental Wastewater Discharge Fact Sheet



How to meet King County regulations for dental wastewater discharged to county sewers

Topics Overview:

- ◆ Why do dental practices need to meet the dental wastewater discharge limits?
- ◆ What are the rules defining the limits?
- ◆ Why do dentists need to take action now?
- ◆ Background on dental wastewater discharges in King County
- ◆ What happens if dentists do not meet the dental wastewater discharge limits?
- ◆ The timeline to comply
- ◆ How to meet local dental wastewater discharge limits the routes to compliance
- ◆ Best Management Practices (BMPs)
- ◆ Additional Resources
- ◆ Contact Information
- ◆ Accessibility Information



Why do dental practices need to meet the dental wastewater discharge limits?

All wastewater discharged by any business located in the King County sewer service area, including dental practices, must adhere to regulations as described in King County Code—Title 28 (KCC) and Public Rule PUT 8-13 (PR).

Most commonly, dental practices need to address the amounts of mercury and silver they discharge to the sewer system.

What are the rules defining the limits?

King County limits for metals and their applicability to businesses in the sewer service area are cited in King County Code—Title 28 (<http://www.metrokc.gov/mkcc/CODE/title28.pdf>) and in King County Industrial Waste Local Discharge Limits

(<http://www.metrokc.gov/recelec/archives/policies/put813pr.htm>).

(Continued)



If an industrial user discharges less than 5,000 gallons of wastewater per day, the industrial user must comply only with the instantaneous limits, which are 0.2 ppm for mercury and 3.0 ppm for silver.

For more details about our rules and regulations go to <http://dnr.metrokc.gov/wlr/indwaste.htm> or call the King County Industrial Waste Program (KCIW) at (206) 263-3000 to have a copy of the regulations mailed.

(See end of document for additional contact information.)

Why do dentists need to take action now?

While dentists contribute only a portion of the mercury and other pollutants going into the environment, we must all do our share to prevent further pollution, keeping mercury out of the environment.

Background on dental wastewater discharges in King County:

In 1995, King County and the Seattle-King County Dental Society began work with dentists to achieve voluntary, proper disposal of wastes. A number of King County dentists did not, and continue to not agree with the need for dental wastewater regulation. From 1995 – 2000 the county conducted hundreds of office visits, providing educational outreach along with a Voucher Incentive Program, which reimbursed some equipment and installation costs. By 2002, King County found that a significant number of dental practices were still discharging wastewater that did not comply with county discharge limits for mercury and silver. The county is legally

bound to enforce these limits.

Since 2000, King County's Local Hazardous Waste Management Program and the KCIW have worked with the Seattle-King County Dental Society and others to identify a user-friendly process for all dental practices in the King County sewer service area to follow to ensure that they are in compliance with wastewater discharge limits.

Through 2002, Public Health – Seattle & King County field staff are visiting dental offices to discuss waste issues and to explain the compliance process to individual dentists.

What happens if dental practices do not meet the dental wastewater discharge limits?

County Code provides that businesses or individuals who illegally discharge substances to the sewer system must pay for damages and may be fined. Names of businesses that are fined are published in a *Seattle Times* display ad titled "Companies Violate Pretreatment Standards."



The timeline to comply:

Installing amalgam separators requires time, planning, and budgeting. The permitting process involves documentation and sampling. Therefore, the KCIW does not expect dental practices that install separators or otherwise prove they meet King County limits to be in compliance until the following dates:

After July 1, 2003 – All dental practices must be in compliance with King County limits.

Beginning July 2003 - Investigators from the KCIW will begin inspecting dental offices to see that they meet King County limits*.

All new dental practices must be in compliance with King County's limits when they open.



King County dentist and KCIW inspector view the practice's amalgam separator.

*International Standards Organization (ISO) Certification:

King County will only approve amalgam separators that have been certified as meeting or exceeding ISO-11143 as verified by an ISO*-certified testing laboratory. Any amalgam separator manufacturer that has not previously initiated King County (formerly Metro) testing will need to test its amalgam separator by ISO-11143.

Established in 1947, the International Organization for Standardization (ISO) is a worldwide federation of national standards bodies from more than 140 countries, one from each country. The mission of ISO is to promote the development of standardization and related activities in the world with a view to facilitating the international exchange of goods and services, and to developing cooperation in the spheres of intellectual, scientific, technological and economic activity. ISO's work results in international agreements, which are published as International Standards.

How to meet local dental wastewater dis



Route 1: Using an approved amalgam separator and following best management practices (BMPs)

To meet local limits, the majority of King County general dentistry practices that place or remove dental amalgam will need to install a King County approved amalgam separator to remove metals including mercury and silver from their wastewater. The KCIW developed this route to compliance as a user-friendly, permit-free solution that results in significant reduction of paperwork and procedural steps.

Selecting amalgam separators:

- ◆ Separators must be approved by King County, which publishes a list of approved amalgam separators. If the list is not enclosed with this document, contact the KICW or find the list linked to <http://dnr.metrokc.gov/wlr/indwaste/dentists.htm>.
- ◆ Practices wishing to install amalgam separators that are not approved by King County must apply for dental wastewater discharge permits (see below).

Installing amalgam separators:

- ◆ Separators should either be installed at each chair or in a central location that receives wastewater from all chairs (usually closer to the vacuum pump) where amalgam is removed or placed.
- ◆ Separators must be maintained and wastes disposed of according to manufacturer's recommendations.
- ◆ Dental practices must keep installation, maintenance, and disposal records on site for 3 years.

Estimated costs for approved amalgam separators:

Costs include those of purchasing, installing, maintaining and removing amalgam wastes. Approved amalgam separators may range from \$150 - 2000 purchase price; \$50 - 200 for installation, and \$250 - 600 annual maintenance including waste disposal.

Disclaimer: The KCIW has compiled vendor contact lists and cost estimates for dental practices' use and information. Costs cited here are only estimates. While the program reviews contact information about vendors of King County approved amalgam separators periodically, the information is subject to change.



Route 2: Dental practices in compliance with local dental wastewater discharge limits may apply for dental wastewater discharge permits and follow BMPs.

A smaller number of practices may be able to demonstrate compliance without installing an approved amalgam separator and can choose to apply for a King County Dental Wastewater Discharge Permit in lieu of installing an approved amalgam separator. A discharge permit is needed to ensure that a dental practice meets local dental wastewater discharge limits on a consistent basis.

A dental practice issued a permit to discharge dental wastewater may be required to regularly collect and analyze wastewater samples. There may also be an annual reporting requirement.

The permitting route to compliance may apply to dental practices that do not regularly place or

Discharge limits - The routes to compliance:

remove amalgams but may be able to meet the limits using BMPs only (e.g. pediatricians).

Practices that have installed an amalgam separator that is not on the approved amalgam separator list maintained by King County, or that are utilizing another method of metals pretreatment must also obtain a permit.

Dental practices choosing this route must have a permit in place by July 1, 2003 to be in compliance with King County. Dental practices should request permit applications and attend permit orientations and workshops as soon as possible to ensure that they complete the process by the deadline. In order to ensure that they will be in compliance, dental practices must submit a completed Dental Wastewater Discharge Permit application to King County by March 1, 2003.

Costs for a dental wastewater discharge permit:

The King County Dental Wastewater Discharge Permit ranges from \$900 - 1200, renewable every 5 years at a cost of \$900. (Per 2002 fee schedule.)



Route 3: Follow BMPs and be Inspection-ready:

Certain specialties and practices will not be required to install an amalgam separator or apply for a permit if they place or remove amalgam no more than three days each year or they limit their practice to one of the following specialties:

- ◆ orthodontics
- ◆ periodontics
- ◆ oral and maxillofacial surgery
- ◆ radiology
- ◆ oral pathology or oral medicine
- ◆ endodontists and prosthodontists that do not remove or place amalgam fillings as a service to their clients

A small number of King County dental practices that place or remove little or no dental amalgam will not need to install a separator or apply for a permit to demonstrate compliance with the local dental wastewater discharge limits. In addition to following BMPs for amalgam wastes and used silver fixer, each practice that determines that it places or removes amalgam three days or less each year should be able to demonstrate this during an inspection. Practices should consider keeping a record, including dates, of each procedure performed that involves placing or removing dental amalgam.

Best management practices (BMPs) for all King County dental practices

Whichever route to compliance is applicable to dental practices, it is crucial that all practices follow BMPs for amalgam wastes and spent fixer used in X-ray processing.

The KCIW requires that BMPs be used by all dental practices as a means of limiting dental waste discharges into the sewerage system. All King County dental practices should learn and apply these practices immediately if they are not already utilizing the following BMPs:

1. Following BMPs for amalgam wastes:

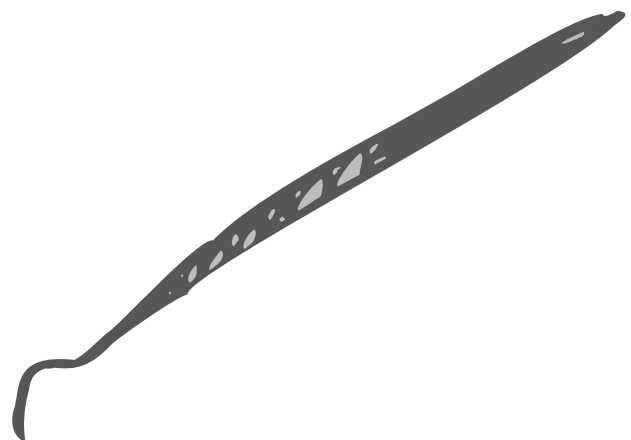
- Keep amalgam out of sinks and never rinse amalgam waste down the drain.
- Clean or replace chair-side traps on a regular schedule and properly dispose of amalgam waste.
- Clean vacuum pump filters regularly, according to the manufacturer's recommendations, and properly dispose of amalgam waste.
- Send amalgam wastes to a licensed TSDR (treatment, storage, disposal, or recycling facility).
- Maintain all disposal records on site for 3 years.
- King County expects all dental practices to apply BMPs for amalgam wastes on an ongoing basis.

2. BMPs for properly handling spent fixer used in X-ray processing:

- Collect spent fixer and have it disposed of by a vendor who will recover the silver in it.

(OR)

- If practices prefer to treat the fixer on site and dispose of it down the drain, they must remove the silver by installing two chemical recovery cartridges (CRCs) in a series. Cartridges must be sized and maintained according to the manufacturer's recommendations. For more information on cartridges, visit <http://www.metrokc.gov/hazwaste/yb/silver.html>.
- Maintain all disposal or maintenance records on site for 3 years.
- King County expects all dental practices to apply BMPs to spent fixer on an ongoing basis.



Additional resources for meeting the local dental practice wastewater discharge limits:

KCIW's Web Dental Office Waste pages, <http://dnr.metrokc.gov/wlr/indwaste/dentists.htm>, contain:

- ◆ a downloadable version of this fact sheet,
- ◆ a downloadable *Dental Practice Wastewater Discharge Permit Application and Guidelines and Instructions*,
- ◆ the list *Amalgam Separators Approved by King County*; the *Comparison Chart for King County Approved Amalgam Separators*, and a list of companies that transport dental office waste to licensed TSDRs (treatment, storage, disposal, or recycling facilities).

Informational Workshops:

The King County Industrial Waste (KCIW) Program is offering periodic workshops through April 2003:

- ◆ **The King County Approved Amalgam Separator Workshop:**
An overview of this route to compliance; how separators work; installation; maintenance; and BMPs.
- ◆ **The King County Dental Practice Wastewater Discharge Permit Orientation:** Compares this route to compliance to the alternative of installing of an amalgam separator; overview of the steps of applying for a permit.
(Usually scheduled 30 minutes prior to the *Amalgam Separator Workshop* above.)
- ◆ **The King County Dental Wastewater Discharge Permit Workshop:**
Participants are those who: have carefully assessed their compliance options should have attended the *Dental Practice Wastewater Discharge Permit Orientation* above; and have a permit application-in-progress to bring to the workshop.

KCIW asks that you pre-register one week prior to the workshop date.

For workshop dates and locations and additional information go to <http://dnr.metrokc.gov/wlr/indwaste/dentists.htm>. To pre-register, please contact the KCIW Program at (206) 263-3021 or email patricia.magnuson@metrokc.gov.
(See next page for contact information for persons with disabilities.)

Contact Information

Web page with dental information: <http://dnr.metrokc.gov/wlr/indwaste/dentists.htm>

King County Industrial Waste Program
130 Nickerson Street, Suite 200
Seattle, Washington 98109-1658
(206) 263-3000 FAX (206) 263-3001

This information is available in alternative formats on request at (206) 263-3000 (voice) or 711 (TTY).

Accessibility Information



This information is available in accessible formats for persons with disabilities upon request. Our meeting sites are wheelchair accessible. Those who have needs or disabilities for which arrangements must be made ahead of time should get in touch with the King County Industrial Waste Program at least ten days before the workshops. Please call 206-263-3000 or TTY relay service at 1-800-833-6388.

Choosing the right amalgam separator for a dental practice

The type of amalgam separator to choose depends on several factors.

Does the practice want individual chair-side separators or a central unit that will handle all the chairs?

What type of vacuum pump services the office? Choose an amalgam separator that doesn't interfere with the practice's vacuum. Some amalgam separators are approved only for chair-side use or for use with a particular type of vacuum pump.

The practice's vendor should be able to recommend units that will best serve the office configuration.

If a practice is in a building that contains many dental offices, it should check with the building manager before installing the unit, to make sure it will be compatible with the central vacuum.

What maintenance is required? Ask whether the vendor provides regular maintenance for the unit or if it is the practice's choice. Questions include: How often does one need to dispose of accumulated waste sludge? Is the sludge collected in a canister that can be replaced or in one that must be emptied?

If the vendor maintains the unit, find out: who the vendor contracts with to haul the waste away; where the contractor sends it, and what waste documentation the vendor provides as part of the service fee.

Review the operation and maintenance manual for items one needs to keep track of while using the unit.

For more information visit: <http://dnr.metrokc.gov/wlr/indwaste/dentists.htm>